

REMARKS

In response to the Office Action mailed November 4, 2004, Applicants amend their application and request reconsideration. No claims are added or cancelled so that claims 15-18 remain pending.

Claims 15 and 17 are independent claims and are amended in the same way. This amendment is supported by the disclosure of the patent application regarding Figures 1 and 2(a), taken in combination. The amendment explains that the cooling block, which corresponds to element 18 in the embodiment of Figure 1, and in several other embodiments, is in physical contact with a portion of the spray nozzle adjacent the plate. The metallic cooling block 18 is not illustrated in Figure 2(a) for clarity of that figure. The cooling block 18, described beginning at page 9 of the patent application, is effective, through its direct physical contact with the nozzle, in maintaining the nozzle at the desired constant temperature. The plate comprises the element 21 in the embodiment of Figure 2(a). Figure 2(a) is described in the patent application, for example, at page 11, as an enlargement of only a portion of what is shown in Figure 1.

For a full description of the invention and the embodiments depicted in the patent application, attention is directed to the amendments previously filed in the prosecution of this patent application and the parent patent application as well as the patent application itself.

In the Office Action mailed November 4, 2004, claims 15 and 17 were rejected as unpatentable over Li et al. (U.S. Patent 5,835,678, hereinafter Li), in view of Zhao et al. (U.S. Patent 6,210,485, hereinafter Zhao). This rejection is respectfully traversed, particularly with respect to claims 15 and 17 as presented here.

While a lengthy discussion might be provided enumerating differences between the invention and Li, a single important difference is emphasized here. Li does not include any element that corresponds to the metallic block 18 that is in contact with the nozzle to provide a cooling effect and thereby maintain more stable the temperature of the nozzle. Rather, the nozzle 24 shown in Figure 2 of Li, to which the Examiner directed attention, is surrounded by a gas-filled chamber. Therefore, heat flow to and from the nozzle 24 can occur only by radiation and convection. By contrast, the cooling block provides more efficient heat transfer by conduction.

The feature added to claims 15 and 17 is likewise not disclosed by Zhao. There, the nozzle 144 is suspended within and spaced from the interior confines of a "neck" 142. Again, nozzle heat transfer is not by conduction in Zhao, only by convection and radiation. Zhao does not disclose nor suggest any cooling block in physical contact with the spray nozzle.

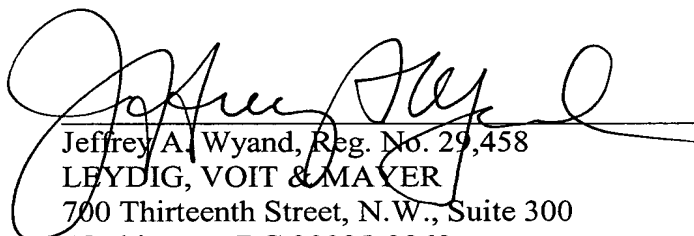
In re Appln. of MATSUNO et al.
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Since each of the independent claims includes at least one feature not illustrated in either of Li or Zhao, no combination of those patents can establish *prima facie* obviousness as to the independent claims nor as to the dependent claims 16 and 18.

Claims 16 and 18 were further rejected over the asserted combination of Li and Zhao in view of a third reference, Onabe (JP 9-143738). However, Onabe was cited for an entirely different proposition and does not supply the elements of the independent claims that are missing from Li and Zhao. Therefore, no further comment is needed with respect to the rejection of those dependent claims.

Reconsideration and allowance of the claims now pending are earnestly solicited.

Respectfully submitted,


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Amendment or ROA - Regular (Revised 1-14/05)